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P A P E R S
towards a biblical mind

Enhancing humans or a new creation?

by Denis Alexander

*I was born human. But this was an accident of fate – a condition merely of time and place. I believe it's something we have the power to change.*¹

Prof. Kevin Warwick, Reading University

*No more gods, no more faith, no more timid holding back. Let us blast out of our old forms, our ignorance, our weakness, and our mortality. The future is ours.*²

Max More, Transhumanist writer

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Summary

Enhancement involves giving abilities integral to the body beyond those we would normally consider a human to possess. Transhumanism is an influential philosophy based on human autonomy in which enhancement technologies play a central role. This paper summarises transhumanism, describes the scope of current enhancing technologies, and provides a Christian critique, presenting the biblical strategy for human transformation as a compelling alternative to the transhumanist project.

Introduction

We are all enhanced people. Many of us incorporate prosthetic devices into our bodies – contact lenses, hip replacements or cochlear implants. We have all been vaccinated, providing enhanced immune protection against pathogens that would have killed many of us a century ago.

What is 'enhancement'? The range of examples highlights the ambiguity of the term. Indeed there is no generally agreed definition, and there is a grey zone between therapy and enhancement, but Kevin Warwick's description is as good as any: enhancement involves giving abilities integral to the body beyond those we would normally consider a human to possess.³

For present purposes we can consider three levels of enhancement: the trivial, the conventional, and the transhumanist, ranging from straightforward technology through to unadulterated ideology. Although there is no sharp demarcation between these categories, they have distinct flavours. The 'trivial' category includes vaccination and contact lenses, not at all trivial in their benefits, but raising no profound ethical or theological issues. The 'conventional' includes cosmetic surgery, the non-therapeutic use of drugs for cognitive enhancement, and prosthetic devices used by amputees that enhance their athletic prowess beyond their non-disabled peers.⁴ Transhumanist enhancement is distinctive in placing enhancement technologies at the centre of a set of explicit philosophical beliefs, and by its aim to develop enhancements well beyond the 'conventional', eventually leading to the 'posthuman'.

Transhumanism and posthumanism

Transhumanism has gained a significant foothold in UK academic life over the past decade and transhumanist views are propagated via societies, websites, journals and films. The philosopher and co-founder of the World Transhumanist Association, Nick Bostrom, provides an influential voice as Director of the Future of Humanity Institute at Oxford,⁵ as does Julian Savulescu, Director of the Uehiro Centre for Practical Ethics, also at Oxford.⁶ At Reading University Prof. Kevin Warwick promotes the benefits of cybernetics⁷ and at Manchester Prof. John Harris has vigorously promoted transhumanist ideas, albeit disliking the 'transhumanist' label.⁸ Transhumanist stories are attractive to the media through being perceived as controversial, or by having strongly visual 'hooks', and

1 Kevin Warwick, *Wired*, Feb. 2000.

2 Max More, *Transhumanism – Towards a Futurist Philosophy*, www.maxmore.com/transhum.htm, accessed 11 Feb. 2009.

3 See Peter Moore, *Enhancing Me – the Hope and the Hype of Human Enhancement*, Wiley, 2008.

4 This led to the South African sprinter Oscar Pistorius, a double amputee who runs on curved carbon-fibre 'blades', qualifying for the Beijing Olympics. See Julian Smith, 'We Have the Technology', *New Scientist*, 3 Jan 2009, pp.36–39.

5 www.nickbostrom.com. See N. Bostrom and J. Savulescu (eds), *Human Enhancement*, OUP, 2009.

6 www.practicaletics.ox.ac.uk/nstaff.htm

7 www.kevinwarwick.org. See K. Warwick, *March of the Machines: The Breakthrough in Artificial Intelligence*, University of Illinois Press, 2004.

8 www.law.manchester.ac.uk/aboutus/staff/john_harris/default.htm. See John Harris, *Enhancing Evolution – the Ethical Case for Making Better People*, Princeton University Press, 2007.

are becoming embedded in popular culture, not least through popular video games, such as Avatar and Second Life, in which players create enhanced, digitised alternate selves.⁹ Transhumanist ideology is first briefly described below; a critique follows later.

Transhumanism views humanity as an evolving phenomenon during which humans have developed consciousness and skill in technology. The next step in evolution is in our hands – to move beyond unguided evolution and use our technology in radical ways for self-enhancement: ‘It is not our human shape or the details of our current human biology that define what is valuable about us, but rather our aspirations and ideals, our experiences, and the kinds of lives we lead.’¹⁰

Transhumanists are engaged in a project to overcome the limitations of human nature.¹¹ Bostrom comments that: ‘Transhumanists view human nature as a work-in-progress, a half-baked beginning that we can learn to remould in desirable ways.’¹²

The unifying value of transhumanism is autonomy and human-enhancing technologies are deemed ‘better’,¹³ rather than simply different: ‘According to the extreme transhumanism programme, technology can be used to vastly enhance a person’s intelligence; to tailor their appearance to what they desire; to lengthen their lifespan, perhaps to immortality; and to reduce vastly their vulnerability to harm.’¹⁴ Simon Young proclaims that ‘The furtherance of human evolution through advanced biotechnology is not only possible, but inevitable.’¹⁵

The endgame proposed by some transhumanists is the ‘posthuman’: god-like beings, intelligent and immortal, but not members of the species *Homo sapiens*. Their species type is poorly defined, but could be cyborg (part human, part machine), or wholly machines lacking any genetic commonality with humans. *Homo sapiens* will be replaced by *Homo cyberneticus*.

Enhancement technologies

Before being able to assess the ethical and theological issues involved in enhancement, we need to understand the scope and realistic possibilities of the technologies involved.

Cosmetic enhancement

Cosmetic enhancements are in the ‘conventional’ category and appear resistant to economic downturns. In total, 34,187 procedures were carried out in 2008 in the UK – up 5 per cent from 2007 and more than tripling since 2003,¹⁶ although still modest compared to the 12 million such procedures currently carried out annually in the USA.¹⁷ In the UK, breast augmentation in women rose by 30 per cent to more than 8,000 in 2008, whereas breast reduction was up 13 per cent at 3,845 procedures. Men are also increasingly being surgically enhanced. Clearly many people are not content with their physical identities.

Cognitive enhancement

Cognitive enhancements span the complete gamut of categories, from the ‘trivial’ to the distinctly transhuman, and are already a present reality, at least as far as drugs are concerned. Ritalin and Adderall are prescribed mainly for the treatment of attention deficit hyperactivity disorder (ADHD), but are widely used by students studying for exams, up to 25 per cent on some US campuses. In the US, soldiers are legally required to take medications, if ordered to, for the sake of their military performance.¹⁸ Pharmaceutical erasure of unwanted memories is an active goal of many drug companies, including Memory Pharmaceuticals.¹⁹ Developed initially for the

victims of trauma,²⁰ extension of erasure drugs beyond such contexts is widely predicted.²¹

Cognitive enhancement by non-pharmaceutical means is developing, albeit at a slower pace. As with drugs, such developments are being driven for medical reasons, but have spin-offs that could be used for enhancement. Brain implants for the control of Parkinson’s, epilepsy and other neurological disorders can have dramatic beneficial effects, in particular deep brain stimulation.²²

Present cognitive enhancement technology by means of drugs or Transcranial Magnetic Stimulation typically facilitates a 10–20 per cent improvement at best in cognitive tests, vastly below levels achieved by mental training techniques.²³ Nevertheless, transhumanists envisage a future age when personal mood states and cognitive efficiency can be self-controlled by technology as required. Of course whether it is the Self or the State that might exert such control is a moot point.

Genetic enhancement

As emphasised previously,²⁴ the complexity of the human genome provides its own best defence. More recent data have provided striking support for this contention. Multiple genes contribute to the overall risk of disease development.²⁵ Even height is influenced by more than 40 genetic variations. For memory and ‘intelligence’ the genetic story is even more complex. There is a huge gap between transhumanist aspirations for changing human nature genetically and technical reality. There is currently no single safe, routine genetic therapy for any disease, let alone an enhancement.

Anti-ageing enhancement

‘The holy grail of enhancement is immortality’.²⁶ A consistent refrain found in the transhumanist literature is that ageing is an illness that should be tackled head-on with the aim of greatly extending human lifespan. Humans already live, on average, around twice as long as they did a century ago, due to improved sanitation, immunization, nutrition and healthcare. But for Aubrey de Grey, Chairman of The Methuselah Foundation, this is not enough and he has formulated a wide-ranging plan for the indefinite postponement of age-related physical and mental decline.²⁷ John Harris envisages that an elite of long-lived ‘immortals’ will emerge, small in number because of the huge costs involved in greatly prolonging life. Nevertheless, ‘Given that people want life and fear death it is difficult not to see longevity, and perhaps immortality, as a palpable good.’²⁸ A transhumanist vision beyond mere anti-ageing is ‘uploading’, the idea that humans could achieve dramatic longevity, if not immortality, by having the information in their brains reproduced in a new digital existence *in silico*, so-called ‘substrate independence’, ‘living’ in new cyber societies with their own rules.²⁹

Cyborgian enhancement

Transhumanists envisage a new generation of cyborgs. In 2002 Kevin Warwick had a 100-electrode array surgically implanted into the nerve fibres of his left arm,³⁰ giving control over an electric wheelchair and an artificial hand using this neural interface. Other cyborg enthusiasts have embarked on similar ‘proof-of-principle’ self-experiments. Todd Huffman, for example, working at Alcor, has had a magnet implanted in his left ring finger so that he can feel magnetic fields, so taking the first small step in the enhancement dream – to increase the repertoire of human experiences.³¹

20 *Nature Neuroscience*, Feb. 2009.

21 Memory erasure by Lacuna Inc. is a central theme in the film *Eternal Sunshine of the Spotless Mind*, 2003.

22 See www.dana.org/events/detail.aspx?id=7326 for a filmed demonstration. Accessed 12 Feb. 2009.

23 N. Bostrom and A. Sandberg, 2007, ‘Cognitive enhancement: Methods, ethics, regulatory challenges’, to be published in *Science and Engineering Ethics*, 2009. K. Morris, ‘Experts urge smart thinking on cognitive enhancers’, *The Lancet Neurology*, 7: 476–477, 2008.

24 D. R. Alexander, ‘Genetic Engineering in God’s World’, *Cambridge Papers*, Vol. 6 No.2, June 1997.

25 *Nature* 447, 661–678, 2007; P. Donnelly, *Nature* 456, 728–731, 2008.

26 John Harris, op. cit., 2007, p.59.

27 Aubrey de Grey and Michael Rae, *Ending Aging: The Rejuvenation Breakthroughs that could Reverse Human Aging in our Lifetime*, St. Martin’s Press, 2007. De Grey remarked in 2004, somewhat optimistically: ‘I think the first person to live to 1,000 might be 60 already.’

28 John Harris, op. cit., p.64.

29 P. Moore, op. cit., Ch. 3.

30 www.kevinwarwick.com

31 P. Moore, op. cit., pp.117–132.

Given the risks involved, such procedures are likely to remain little more than gimmicks for the foreseeable future. More realistic is the idea that cyborgs will develop out of medical procedures. Hearing with a cochlear implant is very different from normal hearing and has to be learnt. Similar devices are now being experimentally implanted into acoustically relevant areas of the brain.³² Enhancement enthusiasts have suggested that such implants could be used for direct transfer of information to the brain. Again this illustrates the way in which a 'conventional' enhancement could be developed further into an application with a distinctively transhuman flavour.

A biblical perspective – the human transformed

Specific proposals for enhancement can be considered individually on their own merits or demerits. Of greater interest here is the role that enhancement plays as a project within the overall philosophy of transhumanism. Humanist accounts of life vary widely, but all hold in common a secularized Christian narrative in which theological roots are readily discernible. Transhumanism is no exception. The human agent is central to the discourse, but there is also an admission that things are not as they should be. As Savulescu bluntly states: 'There is much that is profoundly evil in human nature.'³³ So humans need to change to make the world a better place; there is a need for 'salvation'. But the messianic hope in this case is placed in technology that will shape the enhanced, better human, perhaps a new species altogether, the posthuman. And ahead in the far future lies the hope of immortality when the posthuman will become substrate-independent, delivered from the constraints of flesh and blood to live on in a digital heaven. Death is an enemy to be overcome by technology. The biblical critique below follows this narrative pattern.

A false concept of humanity

The Christian and transhumanist understandings of what it means to be human differ profoundly. For the transhumanist we are identified by species membership, albeit at a 'half-baked' stage of evolution, and 'persons properly so-called are individuals capable of valuing their own existence'.³⁴ For the Christian, human persons are beings distinguished from animals by being made in God's image,³⁵ and therefore have absolute value that is not relative to variations in their physical endowments. Human personhood made in God's image encompasses the weak, the helpless and the poor, all precious in God's sight, even if incapable of 'valuing their own existence'. Human flourishing involves a harmonious relational life with God and with each other. Being made in the image of God involves responsibilities to care for the earth with all its biological diversity, and to care for one another in our gender diversity.³⁶ True humanity involves a humble awareness of our dependency upon God.

It is perhaps no accident that most leading voices in the transhumanist movement are male, often speaking in terms of human autonomy and creation exploitation rather than creation care. Harris puts the point succinctly: 'I personally do not regard humility as a virtue',³⁷ remarking in the context of enhancement that '...we may surely take pride in our choice of appropriate means to our ends and congratulate ourselves on our wise choices and on the fact that we have made the choice that benefits us in ways that we value.'³⁸ Despite this air of self-congratulation, it is not even clear with transhumanist presuppositions why 'half-baked humanity' should be so central to the story. Why not enhance animals?

A false diagnosis

The content of our desires can so easily delude: very often we do not desire what is actually good for us. Get the wrong diagnosis at the beginning and everything else goes wrong. Transhumanists see our evolution as being an incomplete project, so look to the next stage, engineered by us, in which we become our own creators, to extract ourselves from our various inadequacies. Their diagnosis lies in our faulty biology. The Christian diagnosis goes much deeper, and sees our core problem as rooted in our alienation from God.³⁹ It is in this

selfish turning away from God's will for our lives that our deepest problems lie. The absence of a Fall narrative in transhumanism's ultra-Pelagian philosophy is one of its greatest weaknesses. Adam was warned by God that human autonomy was poison ('On the day you eat of it you will surely die'), and so it turned out.⁴⁰ Human autonomy still remains poison, creating confusion⁴¹ and subverting messianic hopes based on human attempts at self-improvement.

A false saviour

Some transhumanist desires are good ones, shared by Christians: the defeat of disease; human betterment; a future with hope not despair. It is in how to fulfil those desires that the key differences emerge. In transhumanism it is technology which plays the messianic role to deliver self-enhancement. In Christianity it is Jesus the Messiah who heals the alienation with God, restores the broken image and enables those who accept God's new humanity in Christ to exercise dominion over the earth without autonomy or exploitation, thereby delivering moral transformation. In the incarnation, without which this salvation would not have been secured through Christ's death and resurrection, we find a pattern for the perfect human which runs completely counter to the transhumanist idea of what it means to be human.

In Philippians 2:5–11 Paul reminds us that Christ is God, but he did not exploit his deity, but 'made himself nothing, taking the very nature of a servant'. Jesus, personification of humility, reveals to us a key aspect of the divine nature. Salvation lies not in self-enhancement but in following in the footsteps of the one who 'humbled himself and became obedient to death – even death on a cross!'⁴² There is no room for boasting, no space for human elites.

Transhumanism delivers just the same old humans helped along and patched up with a few technical fixes and devices. Christianity delivers transformed humans, 'new creations in Christ',⁴³ who begin to model their lives on the one who was willing to take the sinner's place to make this new Way possible.

A false hope for the future

For all their talk about the body, the transhumanist vision for the future is remarkably Platonic. A future substrate-independent digital reproduction of humanity, destined in any case to face the eventual heat-death of the universe, contrasts with the full humanity that the Christian believer will enjoy in a resurrection body in the new heavens and the new earth 'in which righteousness dwells'.⁴⁴ This will take place not by personal enhancement, but solely based on God's grace, securely rooted in God's promises, giving rise to an abundant life in which what it means to be human finds its ultimate fulfilment: perfect physicality and perfect morality united in resurrection bodies.⁴⁵ All the best aspects and achievements of the present world will find a transformed continuity in the future creation.⁴⁶ This great eschatological hope is also a reminder that humankind made in the image of God is not a static concept. Christians are being renewed and morally transformed right now, but also longing for that final day of resurrection when this process will find its fulfilment.⁴⁷

How should Christians respond?

Christians tend to be blamed either for resisting new technology or, by following in the steps of Bacon, for being over-enthusiastic in its use. Addressing three different aspects of Christian commitment points to a middle path between these extremes.

A question of stewardship

Christians have to face present realities in the light of ultimate priorities: we are faced with difficult choices like everyone else. We have already referred to the 'conventional' forms of enhancement, such as cosmetic surgery. Surgery is expensive, so there will be the issue of stewardship: is this expenditure justified when so many in the world are lacking the bare necessities of life? There is also the deeper question here of self-worth and identity. If my ultimate worth is because I am a child of God, being renewed daily in his image, then do I need this integral change to my body? The answer might be 'yes': for some the change may be psychologically crucial. Christians should be tolerant of those who make choices different from their own; in the big scheme of things there are more important matters. But every

40 Gen. 2:17; 3:8–24. 41 Gen. 11:4–9. 42 Phil. 2:8.
43 2 Cor. 5:17. 44 2 Pet. 3:13. 45 1 Cor. 15:49.
46 Rev. 21:24. 47 2 Cor. 3:18; Col. 3:10; 1 Cor. 15:51–52.

32 J. Clausen, 'Man, machine and in between', *Nature* 457: 1080–1081, 2009.

33 Ingmar Persson and Julian Savulescu, 'The perils of cognitive enhancement and the urgent imperative to enhance the moral character of humanity', *Journal of Applied Philosophy*, 25: 162–177, 2008.

34 John Harris, op. cit., p.97.

35 Gen. 1:26–27.

36 Gen. Ch. 2.

37 John Harris, op. cit., p.113.

38 John Harris, op. cit., p.133.

39 Eph. 2:12–13; Col. 1:21–22; Rom. 3:10–12.

Christian needs to ask the hard questions first: does my choice reflect the renewing of my mind by God's Spirit?;⁴⁸ how will my choice affect others?; might the money be better spent on something else?

A question of priorities

A recurring refrain in the enhancement literature is: 'Who are you to prevent me from doing what I want to do?' The Christian priority is different: 'How do I bring glory to God through my positive service to humanity?'⁴⁹ The Christian's priorities are established by the biblical imperative to care for the poor and the dispossessed, for those less fortunate than ourselves, and to seek to build relationally healthy societies. Technology is one of God's great gifts and can be used for healing and for meeting human needs. But in contrast to healing, there seems to be no clear biblical mandate for the use of technology to extend intrinsic human powers and capabilities.

Because technology can be treated as having almost god-like attributes, Christians sometimes react in instinctive opposition. But this is unnecessary. Recognition that technology is a false saviour is not a call to Luddite arms. For that reason Christian opposition to enhancement technologies does not seem a priority unless their potential for harm is both very significant and likely to be fulfilled. The nanny state is already over-regulated and too quick to interfere in the private lives of citizens. If people want to poke electrodes in their brains, stick chips in their arms, or feel magnetic fields, then let them get on with it, and the best of luck. In practice, anyway, for the foreseeable future most enhancements will continue to come as spin-offs from medical interventions. When that happens, be thankful. If your hip replacement works even better than the original, great. If your cancer drug not only cures your cancer but gives some extra years of life for quite different reasons, excellent. Please do not read this paper as ungratefulness to God for the wonders of technology.

I think the priority for Christians is different: to map out for society the attractions of transformed humans now, rather than the nebulous future posthumans, who seem too much like 'pies-in-the-skies-when-you-digitise'. The Christian response to transhumanism should focus on the human transformation that is found in Christ, mapping out the positive relational alternative which stands in such stark contrast to the dismal prospect held out by interminable and individualistic technological fixes. Too many enhancement enthusiasts are male geeks playing with boys' toys. A little humour and irony might subvert the speculative transhumanist vision more rapidly than weighty sermonizing. There is actually no sight more pathetic than humans trying to dress as gods. At the end of the day the transhumanist vision for the future is an ultraconservative rehashing of Neoplatonic idealism – in its present outworking mostly boring, about trivial pursuits, but it's best to make this clear by accentuating the more convincing Christian alternative: humans transformed by the Holy Spirit both now and in the future.

A question of relational health

Transhumanism is depressingly egocentric. A striking theme in transhumanist writings is the commitment to individual rights and freedoms, 'the ability and right of individuals to plan and choose their own lives', with only the occasional nod towards the communal good. Harris writes that 'citizens should be free to make their own choices in the light of their own values, whether or not these choices and values are acceptable to the majority.'⁵⁰ The 'good' in this view refers to the

expansion of personal choice. But in reality personal choice is exercised in relation to the inequality that necessarily arises with respect to scarce goods and services distributed by market mechanisms.⁵¹

There are already so many inequalities in the world that it seems difficult to justify further additions. The usual transhumanist objection to this criticism is that we do not withhold the latest medical therapies from our own citizens on the grounds that others in the world cannot benefit. And in any case, the latest therapies will eventually become cheaper and more available. True, but the argument misses the point: two wrongs do not make a right. In practice there is a big difference between meeting the basic healthcare and medical needs of the world, in which preventable malaria kills an African child every 30 seconds, and funding another potentially enhancing drug with as yet unknown side effects, or an implant that detects magnetic fields. The common good involves actively obeying the command of Jesus to 'love our neighbour as we love ourselves'.⁵² Many transhumanist arguments sound selfish and narcissistic, this in spite of the extensive sociological literature showing that human wellbeing is closely linked to relational health.⁵³ The Christian will press for actions that equalize opportunity between different human populations, not those that drive yet more divisive wedges.

The posthuman 'endgame' of the transhumanist project is one in which elites will be alienated from their non-enhanced distant cousins. In the Christian 'endgame' transformed people from every ethnic group in the world will be united in common worship.⁵⁴

Conclusions

Trivial and conventional enhancements *per se* represent no threat to Christian faith and should on the whole be treated with thankfulness or amused tolerance, depending on context. The god-like role that enhancement plays within transhumanist philosophy is a different matter. The Christian response to transhumanism should focus on the human transformation that is found in Christ, mapping out the positive relational alternative which stands in such stark contrast to self-help through technology. People will be happier and more fulfilled by adopting the Christian vision for humanity because long-term wellbeing arises from relational health, not from lonely artificial simulations. It is not transhumans or posthumans that we need in society, but more transformed humans.

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- 51 A. Buchanan et al., *From Chance to Choice: Genetics and Justice*, Cambridge University Press, 2000.
- 52 Luke 10:27. The Parable of the Good Samaritan defines Jesus' understanding of being a neighbour (Luke 10:29–37).
- 53 David G. Myers, 'Religion and Human Flourishing', in M. Eid and R. J. Larsen (eds), *The Science of Subjective Well-Being*, The Guilford Press, 2008.
- 54 Rev. 7:9–10.

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48 Rom. 12:1–2. 49 Mark 12:29–30. 50 John Harris, op. cit., p.6.

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